

IN THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application:

1. (currently amended) An antenna for receiving wireless communication signals, said antenna comprising:

~~a plurality of two~~ antenna elements positioned at ~~a~~ smaller distance apart than a half wavelength of a frequency of signals to be received;

~~a plurality of~~ first and second transmission lines for transmitting the signals received ~~by~~ in any of the antenna elements, ~~at least any one of the~~ second transmission lines having a delay circuit with a predetermined electric length;

~~synthesizing means for synthesizing the received signals that have been transmitted through the~~ plurality of ~~first and second~~ transmission lines; and

~~switching means, which is positioned in the transmission line, for switching~~ connections between the antenna elements ~~or~~ and the first and second transmission lines, respectively, ~~in which the switching means switches the antenna elements or the transmission lines to set to two a number of antenna elements to be simultaneously output among the plurality of antenna elements and to change~~ at the directivity of the antenna to the reverse direction ~~thereof~~.

2. (cancelled)

3. (cancelled)

4. (currently amended) A signal-receiving apparatus for receiving wireless communication signals, said apparatus comprising:

an antenna for receiving the wireless communication signals;

a signal-receiving circuit for processing a signal received from the antenna; and

control means for controlling the directivity of the antenna,

saidthe antenna including:

~~a plurality of~~two antenna elements positioned at a smaller distance apart than a half wavelength of a frequency of signals to be received;

~~a plurality of~~first and second transmission lines for transmitting thesignals received ~~in any of~~by the antenna elements, ~~at least any one of the~~ second transmission lines having a delay circuit with a predetermined electric length;

synthesizing means for synthesizing the received signals that have been transmitted through the ~~plurality of~~first and second transmission lines; and

~~switching means, which is positioned in the transmission line, for switching connections between the antenna elements or~~and the first and second transmission lines, ~~respectively, in which the switching means switches the antenna elements or the transmission lines to set to two a number of antenna elements to be simultaneously output among the plurality of antenna elements and to change at~~the directivity of the antenna to the reverse direction thereof.

5. (cancelled)

6. (cancelled)

7. (new) An antenna for receiving wireless communication signals, said antenna comprising:

a first antenna element and a second antenna element that are positioned at a smaller distance apart than a half wavelength of a frequency of signals to be received;

a first transmission line for transmitting a signal received by the first antenna element, the first transmission line having a first delay circuit with a first electric length;

a second transmission line for transmitting a signal received by the second antenna element;

a third transmission line for transmitting the signal received by the second antenna element, the third transmission line having a second delay circuit with a second electric length;

first switching means for switching connections between the antenna elements and the transmission lines, respectively, so that a signal received by the second antenna element is transmitted to one of the second transmission line or the third transmission line;

second switching means for switching the connections between the antenna elements and the transmission lines, respectively, so as to transmit the signal from one of the second transmission line or the third transmission line; and

synthesizing means for synthesizing the signal transmitted from the first transmission line and the signal transmitted through the second switching means, wherein the first and second switching means switch the connections to change the directivity of the antenna to a reverse direction.

8. (new) An antenna for receiving wireless communication signals, said antenna comprising:

a first antenna element;

a second antenna element positioned at a smaller distance from the first antenna element than a half wavelength of a frequency of signals to be received;

a third antenna element positioned on an opposite side of the first antenna element from the second antenna element and at a smaller distance from the first antenna element than a half wavelength of a frequency of signals to be received;

a first transmission line for transmitting a signal received by the first antenna element, the first transmission line having a delay circuit with a predetermined electric length;

a second transmission line;

switching means for switching connections between the antenna elements and the transmission lines, respectively, so that one of a signal received by the second antenna element or a signal received by the third antenna element is transmitted to the second transmission line; and

synthesizing means for synthesizing the signals transmitted from the first and second transmission lines, wherein the switching means switches the connections to change the directivity of the antenna to a reverse direction.

9. (new) A signal-receiving apparatus for receiving wireless communication signals, said apparatus comprising:

an antenna for receiving the wireless communication signals;

a signal-receiving circuit for processing a signal received from the antenna; and

control means for controlling the directivity of the antenna,

the antenna including:

a first antenna element and a second antenna element that are positioned at a smaller distance apart than a half wavelength of a frequency of signals to be received;

a first transmission line for transmitting a signal received by the first antenna element, the first transmission line having a first delay circuit with a first electric length;

a second transmission line for transmitting a signal received by the second antenna element;

a third transmission line for transmitting the signal received by the second antenna element, the third transmission line having a second delay circuit with a second electric length;

first switching means for switching connections between the antenna elements and the transmission lines, respectively, so that a signal received by the second antenna element is transmitted to one of the second transmission line or the third transmission line;

second switching means for switching the connections between the antenna elements and the transmission lines, respectively, so as to transmit the signal from one of the second transmission line or the third transmission line; and

synthesizing means for synthesizing the signal transmitted from the first transmission line and the signal transmitted through the second switching means, wherein the first and second switching means switch the connections to change the directivity of the antenna to a reverse direction.

10. (new) A signal-receiving apparatus for receiving wireless communication signals, said apparatus comprising:

an antenna for receiving the wireless communication signals;

a signal-receiving circuit for processing a signal received from the antenna; and

control means for controlling the directivity of the antenna,

the antenna including:

a first antenna element;

a second antenna element positioned at a smaller distance from the first antenna element than a half wavelength of a frequency of signals to be received;

a third antenna element positioned on an opposite side of the first antenna element from the second antenna element and at a smaller distance from the first antenna element than a half wavelength of a frequency of signals to be received;

a first transmission line for transmitting a signal received by the first antenna element, the first transmission line having a delay circuit with a predetermined electric length;

a second transmission line;

switching means for switching connections between the antenna elements and the transmission lines, respectively, so that one of a signal received by the second antenna element or a signal received by the third antenna element is transmitted to the second transmission line; and

synthesizing means for synthesizing the signals transmitted from the first and second transmission lines, wherein the switching means switches the connections to change the directivity of the antenna to a reverse direction.